

AN ENDOPHYTE (*STICHUS MERMISOIDES*) OCCUR-
RING IN THE TEST OF A CRETACEOUS BIVALVE.

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(Plates xxx. and xxxi.)

In a very unlooked for host, another Endophyte has appeared, and quite a different type to any of the previously described Australian forms. Microscopic sections of the shell of *Fissiumula clarkii*, Moore, sp.¹ were prepared for the purpose of examining its structure, when it became at once apparent, even with a good pocket lens, that the test was permeated by some foreign body.

A section taken parallel to the growth layers of the shell, under a one inch objective, revealed the presence of innumerable black specks and small masses of irregular outline, and variable diameter. A few of these little objects are cut obliquely, when hair-like black lines are observed to pass from them into the deeper recesses of the shell test. The diameter of these specks varies between .002 and .004 mm.

It is, however, in a section taken transversely to the growth, and under a two inch objective that the explanation of these remarkable small objects becomes apparent, as long, inequidistant, and generally parallel chains of black spheres or monillæ penetrating the shell substance at right angles to its plane of growth; the straight and direct course, curving neither to the right nor left is very marked. The continuity of the monillæ is at times broken for short distances, but at these points the line is maintained as a faint transparent tube or sheath, to be again shortly occupied in a similar manner. If these breaks, in the continuity of the chain, are carried to any extent, as they are in some instances, the latter appears broken up into a series of disconnected black spheres, but still following one another at intervals in the same straight linear series. In other portions of the section the tubes or sheaths may be seen empty, without any infilling of monillæ or pigment matter, pursuing the same straight and parallel course as the chains do.

The monillæ in a given chain are of variable size, from .002 to .006 mm. diameter, but this irregularity is here and there

¹ Etheridge, Junr.—Mem. Geol. Surv. N.S. Wales, Pal. No. 11, 1902, pp. 31 and 36.